

WHAT IS CLAIMED IS:

1. A device for electroacoustic sound generation in a motor vehicle, said device comprising:

a sound pressure sensor positioned proximal to or within one of an intake tract and an exhaust tract of the motor vehicle;

a signal processing unit connected to and receives an output of said sound pressure sensor;

a loudspeaker unit having at least one loud speaker wherein said loudspeaker unit is connected to said signal processing unit;

a synthesizer connected with or integral with said signal processing unit whereby synthetic sound components are added to said signal generated from said sound ~~processor~~ <sup>pressure</sup> sensor.

2. The device according to claim 1, wherein said synthesizer provides at least one sinusoidal frequency which is a function of an engine speed of said motor vehicle.

3. The device according to claim 2, further including a memory unit containing values for at least one of amplitudes and phases of sinusoidal oscillations as a function of the engine speed.

4. The device according to claim 1, wherein said synthesizer includes at least an input for input signals

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indicating at least one of throttle position, accelerator pedal position, and input parameters of corresponding signals and wherein at least one of the amplitude and sound characteristics of signals generated by the synthesizer are variable as a function of said input signals.

5. The device according to claim 1, wherein said synthesizer is connected to receive a signal as a function of the detected sound pressure amplitude and wherein at least one of the amplitude and sound characteristic of the signal output by said synthesizer is varied as a function of said input signal.

6. The device according to claim 1, wherein said synthesizer comprises a determination unit having an input for receiving an input variable based detection of a push operation wherein the output of said determination unit supplies a corresponding signal to the synthesizer in order to simulate a predefined sound in push operation.

7. The device according to claim 1, wherein said signal processing unit includes a filter unit for filtering a signal from said sound pressure sensor and wherein said filter provides an output which changes the sound characteristics of sound detected by said sound pressure sensor.

8. The device according to claim 1, wherein said signal processing unit includes a means for mixing the sound from said sound pressure sensor and from said synthesizer as a function of operational parameters of said motor vehicle.

~~9.~~ An electroacoustic sound generator for a motor vehicle comprising:

a sound pressure sensor positioned in the vicinity of or within the intake tract or the exhaust tract of the motor vehicle;

a signal processing unit having a first input for receiving an output of said sound pressure sensor and a second input for receiving a rotational speed signal from said motor vehicle, said signal processing unit comprising a synthesizer for generating synthetic sound components which are added to the signals generated from said sound pressure sensor; and

a loudspeaker system connected with an output of said signal processing unit.